REMARKS

Claims 1-13 are all the claims pending in the application. By this Amendment, Applicant amends claims 1, 3, and 12 to further clarify the invention. In addition, Applicant rewrites claim 9 into its independent form and adds claims 14-16, which are clearly supported throughout the specification.

I. Summary of the Office Action

Claims 1-8 and 11-13 stand rejected under 35 U.S.C. § 103 and claims 9 and 10 contain allowable subject matter. Also, claims 12 and 13 are rejected under 35 U.S.C. § 112, first paragraph.

II. Claim Rejections under 35 U.S.C. § 112, first paragraph

Claims 12 and 13 are rejected under 35 U.S.C. § 112, first paragraph for failing to comply with the enablement requirement. Applicant respectfully traverses these grounds for a rejection in view of the following comments.

One of ordinary skill in the art would readily appreciate and recognize the unique features of the invention claimed in claims 12 and 13 from the original specification. For instance, in the exemplary, non-limiting embodiment, Fig. 2 shows that when the destination of the signaling message is not here *i.e.*, not the switch, step 26, a flag with a predetermined order corresponding to "send order" is added, step 27 (*see* page 7, line 27 to page 8, line 12 of the specification). The predetermined "send order" is to be added to the message whatever the protocol that is to be used thereafter in conveying it to the exchange 19 (*see* page 6 of the specification). Specifically, page 6, lines 9 to 12 recites:

> [i]n the interpreter 14, the message "SIGNALLING" produced by the member 15 receives a predetermined additional character string in operation 22, which string is ***always the same***, emphasis added.
>
> [t]his character string represents a send order.

That is, if in the exemplary, non-limiting embodiment, a predetermined order *i.e.*, "sent order" is added when the destination is not the switch, then one of ordinary skill in the art would readily appreciate that the same predetermined order is added to send the message, as is also explicitly states in the exemplary embodiment of the present invention. Where the signaling message is to be sent is irrelevant for adding the send order, as it is always the same.

That is, the specification as well as the original claim 2 discloses a detector recognizing whether the received signaling message is addressed to the switch (*e.g.*, Fig. 2, step 26). When the received signal is addressed to the switch, it is send to the processor as set forth in the original claim 2 and shown in Fig. 2, step 27. On the other hand, if the received signal is not addressed to the switch, it is send to the translator as set forth in the original claim 2 and shown in Fig. 2, step 28. The translator will add the same send order regardless of where the message is addressed to and regardless of the signaling configuration of the message. That is, one of ordinary skill in the art would readily appreciate that if the destination is not the switch, then the message must be send and a send order must be given (page 8 of the specification). In other words, a predetermined character string corresponding to the send order is added by the translator regardless of the destination (*i.e.*, which exchange it is to be send to) and regardless of the signaling configuration to be used. In short, if the message is received by the translator, a send order string will be added.

It will be appreciated that the foregoing remarks relate to the invention in a general sense. These remarks are not necessarily limitative of any claims including claims 12 and 13 and are intended only to help the Examiner better understand the allegedly non-enabling aspects of the claims discussed above. For at least the above-discussed exemplary reasons, Applicant respectfully requests the Examiner to withdraw this rejection of claims 12 and 13.

III. Prior Art Rejections

Claims 1, 3, 5, 7, and 8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,995,595 to Hickey et al. (hereinafter "Hickey") in view of newly cited U.S. Patent No, 5,715,241 to Glass, III et al. (hereinafter "Glass") and further in view of newly cited U.S. Patent No. 6,516,355 to Hartmann et al. (hereinafter "Hartmann"). Applicant respectfully traverses these grounds of rejection in view of the following comments.

Independent claim 1, among a number of unique features, recites:

> an interpreter producing a signaling configuration upon receiving an order to send a signaling message, wherein a type of signaling channel is selected from the signaling channels accessible to the coupler and the signaling configuration produced depends on the selected type of signaling channel

For example, an illustrative, non-limiting embodiment of the present invention discloses a switch that is capable of transmitting and receiving signaling messages in a variety of communication channels without having a transcoder for each communication channel. In particular, in the exemplary embodiment, a switch with an interpreter is provided, which transmits signaling messages in a variety of forms based on the signaling channels available to the switch. In this exemplary embodiment, a predetermined instruction string (order) is added to the signaling

message. The predetermined order is always the same regardless of the type of signaling message.

In response to the order, the interpreter of the exemplary embodiment of the present invention, encapsulates the signaling message according to the types of channel available at the switch. For example, if the switch only has an X25 type of channel, then the signal is configured to be transmitted over this X25 type of channel even if the original signal is in a different type. On the other hand, if the switch has a number of channels available, then the interpreter can decide which type of channels to use (*e.g.*, first available link in chronological order).

It will be appreciated that the foregoing remarks relate to the invention in a general sense, the remarks are not necessarily limitative of any claims and are intended only to further understanding of the distinguishing aspects of the claims mentioned further above.

Hickey, on the other hand, discloses a method of transferring information between ISDN telephones that are operable in either a local mode or a remote mode. The telephones are placed in the local mode when the user is available to accept calls and is placed in the remote mode when the user wishes the incoming calls or other information to be transferred to a companion phone at a different location. The selection of the telephone mode may be controlled locally or from a remote location (col. 1, lines 39 to 48). Hickey further discloses a conventional setup of having B (bearer) channels for data and one single delta (D) channel for signaling messages (col. 1, lines 27 to 36). In short, as acknowledged by the Examiner, Hickey does not disclose or suggest the above-quoted unique features of claim 1 (*see* page 6 of the Office Action).

The Examiner contends that the combined disclosure of Glass and Hartmann cure the above-identified deficiencies of Hickey. Specifically, the Examiner contends that Glass

discloses a number of signaling channels and Hartmann discloses that the signaling configuration depends on a type of the signaling channels accessible to the coupler (*see* pages 6-7 of the Office Action). Applicant respectfully disagrees. Applicant respectfully submits that the three references, taken alone or in any conceivable combination, do not disclose or suggest an interpreter of the switch producing a signaling configuration upon receiving an order to send a signaling message, where a type of signaling channel is selected from the signaling channels accessible to the coupler and the signaling configuration produced depends on the selected type of signaling channel.

Glass discloses that an integrated services digital network (ISDN) enables telephone service providers to supply multiple types of signaling channels from a central office over a single twisted pair-configured, local loop to a network termination interface or ISDN terminal equipment, such as, but not limited to an ISDN phone, an X.25 packet device, or an ISDN terminal adapter, to which customer premises-resident data terminal equipment may be coupled. These multiple types of signaling channels typically include a digital data channel, a digitized voice channel, and a separate dialing channel. Since the ISDN terminal equipment is customer-installed, the local telephone service provider does not participate in the customer's choice of equipment to be connected to the ISDN line (col. 1, lines 19 to 32).

Glass further discloses that in order for a customer to actually place a call through an installed piece of terminal equipment, it is necessary that the terminal equipment's supervisory communications controller be properly initialized or preconfigured with a prescribed set of communication parameters. It is difficult for the customers to properly configure the settings based on their equipment (col. 1, lines 34 to 65). Accordingly, Glass proposes incorporating into

the terminal equipment's communications control software a detector. The detector obtains a reference table search and places a number of test calls. That is, the detector iteratively attempts to register respectively different service profile identifiers (SPIDs), as necessary, until the correct SPID and corresponding switch protocol is identified (col. 2, lines 5 to 20).

In short, Glass only discloses configuring the user's equipment to the switch protocol supported by the equipment. In Glass, the terminal equipment is set up to a particular switch protocol. Glass only discloses that various signaling channels are provided from the central office. However, Glass fails to disclose or suggest the switch having an interpreter, as set forth in claim 1. Specifically, Glass fails to disclose or suggest selecting a type of signaling channel from the signaling channels accessible to or available at the coupler and producing signaling configuration based on the selection.

The Examiner contends that Hartmann discloses that the signaling configuration produced depends on a type of the signaling channels accessible to the coupler (*see* page 6 Of the Office Action). Applicant respectfully disagrees.

Hartmann discloses that typical switch configuration commands issued by the host to the switch (the matrix CPU) include: …changing a channel configuration, changing a trunk type configuration (defining the signaling protocol for a particular channel or group of channels). Once configured, the switch remains configured until a card or the matrix CPU is reset, or until a change in service dictates changing one or more of the configuration parameters (col. 2, lines 5 to 25). In other words, Hartmann only discloses that the host will set up the switch by instructing in regard to the channel configuration and the trunk type configuration. In short, Hartmann only discloses defining a signaling protocol and not selecting a type of signaling channel from the

available channels to produce a signaling configuration. Hartmann does not disclose or suggest selecting a type of signaling channels from the available channels and producing the signaling configuration based on the selection.

In general, Hartmann discloses that switches from different manufacturers communicate using different protocols (col. 3, lines 26 to 33). Hartmann proposes having a single host control various different switches by providing the switches with the switch engines. The switch engines translate a generic message into the switch specific protocol (col. 3, line 36 to col. 4, line 19). Hartmann, however, fails to disclose or suggest the switch having an interpreter that would produce signaling configuration that depends on the type of the signaling channel selected.

Therefore, "an interpreter producing a signaling configuration upon receiving an order to send a signaling message, wherein a type of signaling channel is selected from the signaling channels accessible to the coupler and the signaling configuration produced depends on the selected type of signaling channel," as set forth in claim 1, is not suggested by the combined disclosure of Hickey, Glass and Hartmann, which lack producing a signaling configuration based on the selected type of signaling channel selected from the signaling channels available at the coupler. For at least these exemplary reasons, independent claim 1 is patentable over the prior art of record. Claims 7 and 8 are patentable at least by virtue of their dependency on claim 1.

Next, independent claim 3 recites features similar to, although not necessarily coextensive with, the features argued above with respect to claim 1. Therefore, arguments presented with respect to claim 1 are respectfully submitted to apply with equal force here. For at least substantially analogous reasons, therefore, independent claim 3 is patentable over

Hickey, Glass, and Hartmann. Claim 5 is patentable at least by virtue of its dependency on claim 3.

Claims 2, 4, 6, and 11-13 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hickey, Glass, and Hartmann in view of U.S. Patent No. 5,949,871 to Kabay et al. (hereinafter "Kabay"). Applicant respectfully traverses these grounds for a rejection in view of the following comments.

Claims 2 and 11-13 depend on claim 1 and claims 4 and 6 depend on claim 3. Applicant has already demonstrated that Hickey, Glass, and Hartmann fail to disclose or suggest the unique features of the independent claims 1 and 3. Kabay does not cure the deficient teachings of these three references.

Kabay discloses an improved method of providing services in the telecommunications network for ported clients (clients which kept their number but changed the provider) by means of using an interceptor (col. 5, lines 40 to 65). Specifically, this interceptor intercepts a control message (e.g., Initial Address Message) and checks whether the caller or the receiver is a ported client by checking the dial number and the called party number. If the caller or the called party is a ported client, then the interceptor accesses the type and values of an IAM and compares them with stored service trigger data (Fig. 15; col. 13, lines 10 to 19). Next, at least one of the call-related parameters of the control message is modified to effect some of the required service implementation action. Basically, this interceptor sends out a new IAM with destination data set in dependence on the location routing number (col. 16, lines 1 to 67).

Kabay, however, clearly fails to cure the deficient teachings of Hickey, Glass, and Hartmann in that it also fails to disclose or suggest producing signaling configuration based on

the selected type of signaling channel, where the type of signaling channel is selected from the signaling channels that are accessible to the coupler. Therefore, dependent claims 2, 4, 6, and 9-13 are patentable over the combined teachings of Hickey, Glass, Hartmann, and Kabay at least by virtue of their dependency on claim 1 or 3.

In addition, dependent claim 2 recites that *the coupler comprises: a detector recognizing whether the receiver signaling message is addressed to the switch*. The Examiner alleges that Kabay's interceptor ascertaining whether service implementation action is required with respect to the call associated with the control message discloses a detector recognizing whether the received signaling message is addressed to the interceptor box (*see* pages 8-9 of the Office Action).

Kabay discloses intercepting the message, and processing the trigger data when the call comes from a ported caller or to a ported called party. To recognize the interceptor box, an address or some form of identification is needed. Applicant respectfully submits that as the name "interceptor" suggests, Kabay's interceptor box has no identification. Indeed, the interceptor box is not configured to perform the functionality of recognizing whether the received message is addressed to the interceptor box, and without some sort of identification such detection is impossible. Moreover, the detector as set forth in claim 2 is part of a coupler of the switch, whereas the interceptor box is a separate entity and not a part of another entity (Fig. 10; col. 7, lines 43 to col. 8, line 10).

For at least these additional reasons, Applicant respectfully submits that claim 2 is patentable over the combined teachings of Hickey, Glass, Hartmann, and Kabay.

In addition, dependent claim 11 recites: "when the signaling message is received by the switch, the receiver adds a receive flag to the signaling message and the detector checks the signaling message for the receive flag to determine whether the switch is a designated destination for the signaling message." The Examiner alleges that Hickey discloses these unique features of claim 11 (*see* page 9 of the Final Office Action). However, the Examiner acknowledged with respect to claim 2 that Hickey fails to disclose or suggest a detector (*see* page 8 of the Final Office Action). Accordingly, Applicant respectfully submits that the Examiner's position with respect to claim 11 is inconsistent with the position taken with respect to claim 2.

Moreover, Applicant respectfully submits that Hickey fails to disclose or suggest "the receiver adds a receive flag to the signaling message and the detector checks the signaling message for the receive flag to determine whether the switch is a designated destination for the signaling message." The Examiner alleges that a flag or code is disclosed in the col. 4, lines 1 to 25 of Hickey meet the unique features of claim 11 (*see* page 9 of the Office Action).

In col. 4, lines 1 to 25, Hickey recites:

> Along with the calling line ID, a flag or code is included to indicate to Station C that this call is from the WAW telephone 12. The constructed setup message is transmitted to the ISDN network 16 via the system bus 44, the signaling channel 46, and the network interface 42 (emphasis added).
>
> Referring now to FIG. 5, a flowchart of a portion of the software that controls operation of the WAH telephone 14 at Station C is shown. Incoming D channel messages are monitored at block 74. At block 76 a determination is made as to whether an incoming call is present. If the call is from the WAW telephone 12, the flag or code contained in a D channel message will be detected at block 78. At block 80 the WAH

> telephone will produce an audibly alert (ring), a visual alert by energizing one of the lamps 26, display Station A's calling line ID on display 24, and energize a lamp indicating that this call is being received from the WAW telephone 12. If the user chooses to ignore the incoming call, the telephone will continue to ring until the call is either answered or abandoned. If the call is answered, as detected at block 82, the WAH telephone 14 responds with the usual Q.931 signaling messages, stored in ROM 52, as indicated at block 84. If the flag or code in the D channel message is not present as determined at block 78, indicative of a call from other than the WAW telephone 14, then normal call processing continues as indicated at block 86 (emphasis added).

In other words, as is visible from the quoted passage above of Hickey, the flag or code is not added by the receiver, Station C. Moreover, the flag or code does not designate the destination of the message but its source. In other words, the flag or code indicates where the call is from (col. 4, lines 1 to 3) and not the destination. In short, Hickey fails to disclose or suggest "when the signaling message is received by the switch, the receiver adds a receive flag to the signaling message and the detector checks the signaling message for the receive flag to determine whether the switch is a designated destination for the signaling message."

Kabay fails to cure the deficient teachings of Hickey. Kabay's interceptor box (alleged detector) intercepts a control message (e.g., Initial Address Message) and checks whether the caller or the receiver is a ported client by checking the dial number and the called party number, and replaces some of the parameters when the caller or the receiver is a ported client (Fig. 15; col. 13, lines 10 to 19). Kabay, however, fails to disclose or suggest "when the signaling message is received by the switch, the receiver adds a receive flag to the signaling message." Moreover, Kabay fails to disclose or suggest the detector checking the signaling message for the

receive flag to determine whether the switch is a designated destination for the signaling message, as the interceptor will never be the destination of the message.

For at least these additional exemplary reasons, Applicant respectfully submits that claim 11 is patentable over the combined teachings of Hickey, Glass, Hartmann, and Kabay.

In addition, dependent claim 12 recites: "when the switch is not the destination, the translator replaces the receive flag with the predetermined constant character string regardless of the destination for the signaling message." The Examiner alleges that Kabay cures the deficient teachings of Hickey, Glass, and Hartmann.

Col. 7, lines 49 to 65 of Kabay recite:

> Party A (EO1) is attempting to contact B who has now ported from carrier 1 (EO2) to carrier 2 (EO3). The objective is to deliver the call to party B on EO3 using the original carrier 1 number.
>
> (1) EO1 simply launches an IAM to EO2 based on the DN [dial number] received from party A. A speech path is set-up between EO1 and EO2.
>
> (2) A message interceptor intercepts the MSU [message signal unit] traffic from the links between EO1 and the STP [signaling transfer point]. This is done on a per-link basis. For each IAM detected, an LNP [local number portability] database lookup is performed across a data network to determine if the Called Party Number (CdPN) is ported.
>
> (3) The database returns an LRN [location routing number]. For non-ported customers the LRN will be the same as the original CdPN. However, if the customer has ported the LRN will be different from the original CdPN.

As is visible from the above quoted passage, Kabay's LNP, CdPN, and LRN clearly depend on the called party *i.e.*, the destination. That is, Kabay fails to disclose or suggest replacing LRN

(alleged receive flag) with CdPN (alleged predetermined character string) regardless of the destination at least because both numbers very much depend on the destination *i.e.*, the called party. Moreover, in Kabay, when a party is not ported, the LRN is not replaced with the CdPN. That is, in Kabay, the replacement is necessary only when the party is ported.

For at least these additional exemplary reasons, Applicant respectfully submits that claim 12 is patentable over the combined teachings of Hickey, Glass, Hartmann, and Kabay.

IV. Allowable Subject Matter

Claims 9 and 10 contain allowable subject matter. Claim 9 has been rewritten into its independent form. Accordingly, it is appropriate and necessary for the Examiner to now allow claims 9 and 10.

V. New Claims

In order to provide more varied protection, Applicant adds claims 14-16. Claim 14 is patentable at least by virtue of its dependency on claim 3. Claim 15 is patentable at least by virtue of its recitation of: "an interpreter producing a signaling configuration upon receiving an order to send a signaling message, wherein the signaling configuration produced for the signaling message depends on a selected type of signaling channel, and wherein the type of signaling channel is selected from different types of the signaling channels available at the coupler to transmit signaling messages … wherein the selection of the type of signaling channel for producing the signaling configuration is based on a predetermined criteria." Claim 16 is patentable at least by virtue of its dependency on claim 15.

VI. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly invited to contact the undersigned attorney at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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